WHAT IS CLAIMED IS:

1. A method of resetting to zero azimuth automatically comprising the steps of:

collecting multiple samples with different azimuths in the longitudinal and latitudinal orientations using two orthogonal magnetic sensors, and outputting corresponding first and second sine wave signals (Sx) (Sy);

adjusting the amplitudes of one of the first and second sine wave signals (Sx) (Sy) such that the amplitudes of the first sine wave signals (Sx) and the amplitudes of the second sine wave signal (Sy) are equal;

comparing the sample values in each set respectively represented by the first and second sine wave signals (Sx) (Sy) to generate the maximum and minimum values (Xmax, Xmin) (Ymax, Ymin);

computing the average values (Xbase, Ybase) basing on the maximum and minimum values (Xmax, Xmin) (Ymax, Ymin), and taking the average values (Xbase, Ybase) as the reference first and second sine wave signals (RSx, RSy) having reset to zero azimuth, whereby

the reference first and second sine wave signals (RSx) (RSy) have the positive and negative sides of equal amplitude.

2. The method of resetting to zero azimuth as claimed in claim 1, wherein the first and second sine wave signals (Sx) (Sy) from the two magnetic sensors are 90 degrees out of phase with each other.

3. The method of resetting to zero azimuth as claimed in claim 1, wherein the method further comprises the steps of:

comparing the maximum value (Xmax) of the first sine wave signals and

the maximum value (Ymax) of the second sine wave signals to yield a differential ratio R1 = Xmas/Ymax; and

multiplying the second sine wave signals (Sy) by the differential ratio R1 such that the amplitudes of the first and second sine wave signals (Sx, Sy) become equal.

4. The method of resetting to zero azimuth as claimed in claim 1, wherein the method further comprises the steps of:

comparing the maximum value (Xmax) of the first sine wave signals and the maximum value (Ymax) of the second sine wave signal to yield a differential ratio R2 = Ymas/Xmax; and

multiplying the first sine wave signals (Sx) by the differential ratio R2 such that the amplitudes of the first and second sine wave signals (Sx, Sy) become equal.

5. A method of measuring the azimuth after having reset to zero azimuth, comprising the steps of:

taking multiple samples respectively using two orthogonal magnetic sensors, and outputting corresponding first and second magnetic induction signals (Ix, Iy);

multiplying the second magnetic induction signals (Iy) by the ratio R1; and

comparing amplitudes of the first magnetic induction signals (Ix) with an adjusted amplitude of the reference first sine wave signals (RSx), and comparing amplitudes of the second magnetic induction signals (Iy) with an adjusted amplitude of the reference second sine wave signals (RSy), in order to generate

the azimuth.

6. The method of measuring the azimuth as claimed in claim 5, wherein the method of measuring the azimuth further comprising the steps of:

taking multiple samples respectively using two orthogonal magnetic sensors, and outputting corresponding first and second magnetic induction signals (Ix, Iy);

multiplying the first magnetic induction signals (Ix) by the ratio R2; and

comparing the amplitudes of the first magnetic induction signals (Ix) with the adjusted amplitude of the reference first sine wave signals (RSx), and comparing the amplitudes of the second magnetic induction signals (Iy) with the adjusted amplitude of the reference second sine wave signals (RSy), in order to generate the azimuth.